

Cost Effective Analysis on the Implementation of Clinical Pathway in Anwar Makkatutu Hospital, Bantaeng District, South Sulawesi, Indonesia



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ABSTRACT

Cost Effective Analysis on the Implementation of Clinical Pathway in Anwar Makkatutu Hospital,
Bantaeng District, South Sulawesi, Indonesia

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Introduction: The National Health Insurance (JKN) has been implemented in Indonesia since 2014 and the dreams for Universal Health Coverage (UHC) by the year 2019. It encourages the need for systems that can reduce losses for patients and hospitals through INA-CBGs. Currently, the participant number and health facilities that cooperate with Social Health Insurance (BPJS) increased significantly, while facts shown the lack of funds for the implementation of JKN during 2014-2015. These situations forced the hospitals to take effective action as quality-cost control by using clinical pathway as a guide of medical treatment for patient. Therefore, this study will analyze comprehensively, about the availability, loyalty, conformity, and cost effectiveness after the implementation of clinical pathway.

Method; This study used mix-method approach with sequential explanatory design. Data was collected through observations, in-depth interviews, document reviews, and also Focus Group Discussion (FGD). Respondents were selected purposively, consist of medical and managerial staff, and insured patients. This study was a pilot project which was conducted in Bantaeng district Hospital, one of public hospital in south Sulawesi

Results; The early study shown that, Bantaeng District Hospital did not implement the quality-cost control system due to the unavailability of clinical pathway guidance. Therefore, this study encouraged medical and managerial staff to establish clinical pathway guidance and evaluating the implementation (The study is still going on and predicted until July 2017).

Conclusions; Quality-cost control system through clinical pathway implementation can reduce the Medical Errors, Length of Stay, Unnecessary Expenditure, also increasing Satisfaction and Quality of service. Therefore, the hospital need to provide clinical guidance through clinical pathway document to ensure patients to get the required services according to their condition and the cost accordance to the treatment received by the patients.

Keywords; Cost Effective Analysis, Clinical Pathway, Hospital

INTRODUCTION

Health services in Indonesia have entered a new era since the government of the Republic of Indonesia enacted the National Social Security System (SJSN) organized by the Social Security Agency (BPJS). To achieve the objectives of SJSN system, a tariff determination system is needed to prevent harm for patients and health service providers. Monitoring and evaluation result of health national insurance from the financing aspect, indicated a lack of growth both health care providers and health professionals. The Indications appear because BPJS facing deficit which is almost 18 trillion. Therefore, tariff system of INA CBGs is in place to address these challenges.

INA CBGs is the amount of claims payment by BPJS for secondary health facilities based on service packages on the disease diagnoses grouping. This tariff calculation is applied in secondary health facilities either in government-owned or private hospitals. INA CBGs are a grouping system of disease based on the same clinical features and resources used in the treatment. This grouping is intended for health financing to health insurance providers as a prospective payment pattern. And to make it easier, INA CBGs packages cover all of the hospital's cost components

There are many attempts have to do to implement INA-CBGs package in hospitals. Build a unified understanding of hospital management along with medical professionals and all hospital staff on the concept of INA-CBGs and improve patient-oriented services are required. Second, Increasing the efficiency of health service costs can be done by 1) adherence to clinical pathway and standard operating procedures of the hospital, 2) prioritizing National Formulary (Fornas) and compendium on drug services and medical devices; 3) efficiency in input, process and output levels of service Building service teams, standardizing pharmaceutical and supporting uses, and distributing services with remuneration methods.

Therefore to support the implementation of INA CBGs, clinical pathway becomes a very important guide in health services provided to patients. Clinical pathway is also a key requirement of quality and cost control especially in cases that potentially deplete large resources. This statement is supported by several studies that have been conducted in several countries around the world.

Research conducted by Li, et al (2014) states that an integrated clinical pathway system significantly reduces medical errors and patient lengths, so that medical quality can be effectively improved. Similarly, the results of research conducted by Huang, et al (2015) show the benefits of the implementation of clinical pathway is to reduce the average length of stay, reduce hospitalization expenses, improve patient satisfaction and improve service quality in stroke management. Implementation of clinical pathway according to Roymeke and Stummer (2012) also helps doctors, nurses and therapists as a tool for socialization and evaluation of treatment processes (Wijayanti et al, 2016). Markey et al. (2000) in his study of Clinical Pathway Implantation Effects on total hospital costs in Thyroidectomy and Parathyroidectomy patients showed a decrease in Length of Stay (LOS) in patients treated according to clinical pathway, as well as each case costs that had a decreased average.

Implementation of clinical pathway in hospital have an optimal role in quality control and cost control in hospitals, not just documents that become the prerequisite of accreditation. From several studies conducted in Indonesia, it can be seen that the implementation of clinical pathway in hospital health services is still less effective. As seen in the research conducted by Nurfarida I. Yoga B, H, Aguno, M on the appropriateness of clinical pathway implementation and the effectiveness of patient service of inpatient skizofrenia in Dr. Sardjito Yogyakarta obtained the result that the clinical pathway implementation stage has not been effective, it is known from the filling of the form of clinical pathway only 33.11%. Similarly, Maidin research results, Alimin et al (2016) which states that an average of 50% of health workers are not adherent to clinical pathway in the hospital and still found complaints from patients regarding services and financing. Therefore, the objective of this study are to evaluate the efficiency of a clinical pathway implementation from identification, planning, implementation, until evaluation in one of public hospital in Makassar.

METHOD

Mix-method approach with sequential explanatory was designed, with monitoring of prevalence and retrospective data collection. The study have a comprehensive observation by using system approach from input, proses, output, and outcome. We included patients admit at

the Bantaeng Hospital (second-level hospital) from various diagnoses (11 specialist cases) and excluded those cases with complication.

As sources of information, we used the medical histories of patients, interview, and focus group discussion with various health professional including doctors, nurses, and pharmacist. The variables recorded covered the existing of clinical pathway in the hospital, total cost of service before the clinical pathway implementation, the conformity of health officer to implement clinical pathway, as well as the effectiveness after the implementation.

Data was collected through observations, in-depth interviews, document reviews, and also Focus Group Discussion (FGD). Respondents were selected purposively, consist of medical and managerial staff, and insured patients. This study was a pilot project which was conducted in Bantaeng district Hospital, one of public hospital in south Sulawesi.

Quantitative variables were expressed through mean and standard deviation. The two groups were compared by means of a bivariate analysis. The behavior of quantitative variables was studied by means of parametric tests (Student *t*) when the variables adjusted to a normal distribution, and with a non-parametric test when they did not. The power and precision of the association were calculated through the odds ratio and 95% confidence interval. The statistical analysis was carried out using the soft-ware package SPSS version 16. While qualitative variable were expressed through qualitative description.

RESULTS

Description of the Studies

Among the 11 medical specialist unit in Bantaeng Hospital we initially screened, only 8 met the inclusion criteria which included one month patients (Table 1) on June and July-August as control group. This research is not available yet for output stage and outcome data, because still in process of data collecting of result intervention.

Identification of Clinical Pathway

In the prior data collection, the researchers conducted initial identification of medical specialist services and clinical pathway documents available in Bantaeng hospital. There are 11 medical specialist services in hospitals Bantaeng consists of internal medicine physician, pediatrician, oncologist, obstetrician, neurologist, ophthalmologist, dermatologist, ENT,

psychiatrist, nutritionist, and cardiologist (no one clinical pathway document are available). Based on the identification and results of the Focus Group Discussion with the specialist doctors group, only 8 met the inclusion criteria as well as in the following table (1);

Table 1. Description of patient included from each medical specialist unit

No	Medical Specialist	Diagnose	Total
1	Internal medicine physician	acute renal failure	2
		hypertension	
2	Pediatrician	diarrhea	3
		dengue fever	
		typhus	
3	Obstetrician	preeclampsia	1
4	Neurologist	stroke	1
5	Ophthalmologist	cataract	3
		pterygium	
		glaucoma	
6	ENT	OMSK	2
		OMSA	
7	Psychiatrist	Schizophrenia	1
8	Cardiologist	acute heart failure	1
Total			14

Source ; Primary Data, 2017

Implementation of Clinical Pathway

In the process of implementing the clinical pathway document, the researcher fully involved the director of Bantaeng Hospital as a leader-driven strategy. Each medical specialist unit has set their own-pathways, accordance with the results of initial diagnose identification through focus group discussions. As well as medical specialist unit has formed a team of clinical pathway compilers consisting of specialist doctors, nurses, pharmacists and nutritionist. Furthermore, the results of clinical pathway preparation will begin to be implemented during one month of trial (study group) to see the difference before and after implementation.

Effectiveness of Clinical Pathway Implementation

The results of clinical pathway implementation effectiveness will measure with three variables, including the Length of Stay of patients, level of compliance before (control) and after

implementation (study group) of clinical pathway, and also patient satisfaction both control and study group.

Cost Effectiveness After Clinical Pathway Implementation

The results of cost effectiveness measurement will use Cost Effective Analysis by performing a comparison test between total financing of patient care of one month (June) before implementation and July to August (after implementation).

DISCUSSION

The implementation process of clinical pathway in this study involved the hospital practitioners include director, and medical personnel starting from the determination of cases that would be intervened. Identification phase of cases/sickness intervened is done through Focus Group Discussion activities together with the leaders and medical personnel in each service, including specialist doctor in early of July. The selection of cases of the disease would intervened based on three things, including the disease with the highest cases, the potential of large financing and which cases became a featured of the hospital. In accordance with the results of earlier study shows that clinical pathway implementation in some cases of the disease with potentially large financing such as stroke, schizophrenia, oestroporotic hip fracture, can improve the quality of service (McLaughlin, 1995; Pinzon et al, 2009; Nurfarida dkk, 2014; and Hernandez et al,2016).

Drafting the documents of the clinical pathway based on strategies are controlled by leaders (leader driven-strategy), used in the study to avoid the presence of obstacles in the implementation stage. In accordance with research Guinane (1997) which indicates that a member of the team who runs pathway only slightly, because clinical pathway has not been considered an important in organization. Therefore, in this study, eachuse of each section has compiled pathway himself, so that the results of the implementation will be more optimal. In addition, the involvement of the non-paramedic personnel involved in multidisciplinary in clinical services is required. The involvement of a multidisciplinary team in consisting of doctors, nurses, nutritionist, pharmacist, and accounting and admission have been performed in this study. Therefore, the clinical pathway should be part in clinical services, including how to documentation. So, the clinical pathway not only would be an extra burden in the service of process in the hospital.

Some of the results of earlier research has proved that the application of the clinical pathway can reduce the time of patient care at the hospital. Uchiyama et al (2002) concluded that outpatient examination pre surgery is a major factor in the decline in the length of stay in hospital with clinical pathways. On the other hand, the decline of the old hospital care when applying clinical path. (Pamella et al, 2003) Most of the research on the application of the clinical pathway was a cohort study using the historical control group. Therefore, the actual medical care system showed a reduction in length of stay in hospital is not as control group.

Factor in compliance in the implementation of clinical pathway starting from the stage of initial assessment patients to rehabilitation process to be one of the deciding factor in the effectiveness of implementation of clinical pathway. Therefore, it is very essential to measure levels of compliance medical personnel, who have in charge to implement standardized service based on clinical pathway. Low Awareness of medical personnel that clinical pathway implementation are very important for the organizations sustainability, and lack of understanding among medical personnel to provide services based on correspondence between clinical diagnosis and insurance diagnosis being one of the causes of low compliance (Agiwahyunto, 2016).

The last variables are patient satisfaction, which was another outcome variable analyzed in most of the studies in China (Zhang, 2014). Based on the studies, the patients in the clinical pathway groups had higher satisfaction than those in the control groups, as well as shorter length of hospital stay and lower hospital cost and the patients were provided better medical service and more resources. Few studies mentioned the patient satisfaction when the survey was conducted. However, the results would have been more credible if the survey were conducted at the end of hospitalization.(Yanagi et al 2007)

Implementing clinical pathways decreased the total hospital costs. A detailed calculation of costs based on resources used, costs of all tests, infrastructure and nursing indicated a significant decrease between the clinical pathway and control groups.(Yanagi et al, 2007) This finding implies that, by decreasing the diagnostic tests and the length of hospital stay, the infrastructure costs were decreased and therefore, the total cost was reduced. Yanagi et al (2007) found that the application of the clinical pathway reduced the total costs, but increased the costs per day, thereby reduce the cost of hospitalization per patient and increase the profit per bed. However, in the costs analysis none of the included studies mentioned or investigated the

resources and the costs of the development and implementation of clinical pathways. In addition, low-volume hospitals would benefit less from implementing clinical pathways (Rotter et al, 2008).

CONCLUSIONS

In conclusion, the results of initial study about clinical pathway implementation run effectively for both identification and implementation. However, there are two more steps, analyzed the effectiveness of medical service after clinical pathway implementation. This study need to collect data after the implementation to compare three variables including, the compliance of medical director to clinical guidelines, Length of Stay, and also patient satisfaction. After that, this study will perform whether the implementation effectively by using those three variables and also perform further studies on the mechanism underlying the effects of the clinical pathway. It is expected that this study will create quality-cost control system through clinical pathway implementation and reduce the medical rrors, Length of Stay, unnecessary expenditure, also increasing satisfaction and quality of service. Therefore, the hospital need to provide clinical guidance through clinical pathway document to ensure patients to get the required services according to their condition and the cost accordance to the treatment received by the patients.

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